

Notice of Allowability

Application No.

09/172,553

Examiner

José R. Díaz

Applicant(s)

GREEN ET AL.

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/4/05.
2. ☒ The allowed claim(s) is/are 31-35 and 37-45.
3. ☒ The drawings filed on 14 October 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Tom Thomas
TOM THOMAS
SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brick Power (Reg. No. 38,581) on February 17, 2005.

Please amend claims 31, 33, 35, 37-38 and 42-45 as follows:

Claim 31, lines 3-4:

a plurality of [[contiguous]] mesas comprising a plurality of contiguous top surfaces , the mesas forming a maze-like structure.

Claim 33, lines 3-4:

a plurality of [[contiguous]] webs comprising a plurality of contiguous top surfaces , the webs forming a maze-like structure.

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Claim 35, lines 3-5:

a storage poly structure comprising a plurality of [[contiguous]] mesas with recesses therebetween;

a contiguous hemispherical-grain polysilicon layer forming a maze-like structure on the storage poly-structure and in contact therewith; and

Claim 37, lines 4-5:

a plurality of low elevations regions of a hemispherical-grain polysilicon layer forming a maze-like structure on the storage poly-structure;

Claim 38, lines 8-10:

plurality of [[contiguous]] mesas , top surfaces of the plurality of mesas forming a maze-like structure; and

[[and]] a dielectric layer [[substantially]] coating an upper surface of the storage poly structure and [[substantially]] lining each of the plurality of recesses.

Claim 42, lines 4-5:

a [[substantially]] confluent hemispherical-grain polysilicon layer on the storage poly structure; and

a mask forming a maze-like structure positioned over the [[substantially]] confluent hemispherical-grain polysilicon layer,

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Claim 43, lines 4-7:

remaining portions of a hemispherical-grain polysilicon layer ~~having a web-like appearance and substantially~~ forming a maze-like structure overlying upper portions of the storage poly structure; and

a mask positioned over the hemispherical-grain polysilicon layer, ~~laterally between the recesses,~~ and [[substantially]] spaced apart from the storage poly structure by the remaining portions

Claim 44, line 4:

a hemispherical-grain polysilicon layer ~~having a web-like appearance~~ forming a maze-like structure on at least portions of the

Claim 45, line 4:

low elevation regions of a hemispherical-grain polysilicon layer ~~having a web-like appearance~~ forming a maze-like structure on

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance: the prior art fails to teach, disclose, or suggest, either alone or in combination, a capacitor storage poly structure having a maze-like structure formed by top surfaces of the storage poly structure, remaining portions of the hemispherical-grain polysilicon layer positioned on the top surfaces, and a planarized mask positioned on the hemispherical-grain polysilicon layer.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence

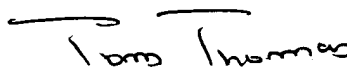
Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R. Díaz whose telephone number is (571) 272-1727. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRD
2/18/05


TOM THOMAS
SUPERVISORY PATENT EXAMINER